

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

**(19) World Intellectual Property Organization
International Bureau**



A standard linear barcode is located at the bottom of the page, spanning most of the width.

**(43) International Publication Date
9 September 2005 (09.09.2005)**

PCT

(10) International Publication Number
WO 2005/081973 A3

(51) **International Patent Classification:**
G01V 3/00 (2006.01)

(21) **International Application Number:**
PCT/US2005/005744

(22) **International Filing Date:**
22 February 2005 (22.02.2005)

(25) **Filing Language:** English

(26) **Publication Language:** English

(30) **Priority Data:**
60/546,995 22 February 2004 (22.02.2004) US

(71) **Applicant (for all designated States except US):**
MEDRAD, INC. [US/US]; One Medrad Drive, Indiana, PA 15051 (US).

(72) **Inventors; and**

(75) **Inventors/Applicants (for US only):** ALRADADY, Fahad [US/US]; 301 Belladonna Drive, Glenshaw, PA 15116 (US). MONSKI, William, J., Jr. [US/US]; 1486 Glandview Way, Sewickley, PA 15143 (US). MISIC, George, J. [US/US]; 1936 Duncan Avenue, Allison Park, PA 15101 (US). McKENNEY, Robert, J. [US/US]; 98 Columbia Drive, Cheswick, PA 15024 (US). ZIBRAT, Timothy, S.

[US/US]; 330 Princeton Drive, Pittsburgh, PA 15235 (US). WLODARCZYK, Jaroslaw [US/US]; 229 Pearl Drive, Lower Burrell, PA 15068 (US).

(74) **Agent:** STEVENSON, James, R.; Medrad, Inc., One Medrad Drive, Indianola, PA 15051 (US).

(81) **Designated States (unless otherwise indicated, for every kind of national protection available):** AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) **Designated States (unless otherwise indicated, for every kind of regional protection available):** ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

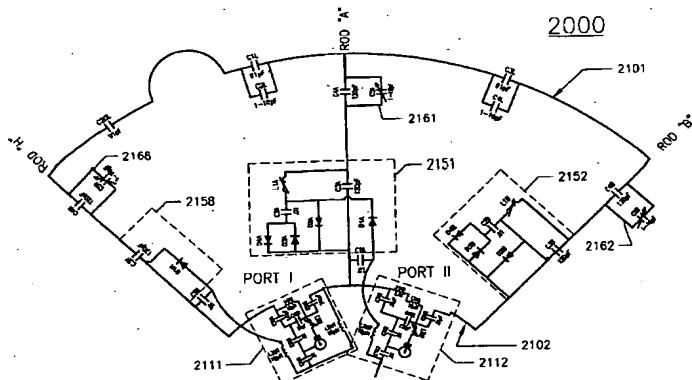
Published:
— *with international search report*

Published:

— with international search report

[Continued on next page]

(54) Title: HEAD COIL AND NEUROVASCULAR ARRAY FOR PARALLEL IMAGING CAPABLE MAGNETIC RESONANCE SYSTEMS



(57) Abstract: A head coil for use with a parallel-imaging compatible MR system is disclosed, as is a method of making, and a neurovascular array (NVA) equipped with, same. The head coil includes conductive rings and rods configured to produce a plurality of electrically-adjacent primary resonant substructures about a birdcage-like structure, with each such primary resonant substructure including two rods neighboring each other and the short segment of each of the first and second rings interconnecting them. The primary resonant substructures are isolated from each other via a preamplifier decoupling scheme and an offset tuning scheme thereby enabling each primary resonant substructure (i) to receive an MR signal from tissue within its field of view and (ii) to be operatively couplable to one processing channel of the MR system for conveyance of the MR signal received thereby (iii) while being simultaneously decoupled from the other primary resonant substructures.



— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(88) Date of publication of the international search report:
6 July 2006